Hi-Flow® 225U

Un-Reinforced Phase Change Thermal Interface Material

Features and Benefits

- Thermal impedance: 0.07°C-in²/W (@25 psi)
- Hi-Flow coating will resist dripping
- Thermally conductive 55°C phase change compound
- Available in roll form with kiss-cut parts

Hi-Flow 225U is designed for use as a thermal interface material between a computer processor and a heat sink. The product consists of a thermally conductive 55°C phase change compound coated on a release liner and supplied on a carrier.

Above its phase change temperature, Hi-Flow 225U wets-out the thermal interface surfaces and flows to produce low thermal impedance. Hi-Flow 225U requires pressure of the assembly to cause flow.

Application Methods:

1. Hand-apply to 35°- 45°C heat sink. The heat sink is heated in an oven or via heat gun to between 35°- 45°C. The Hi-Flow 225U part is then applied like an adhesive pad. The heat sink is cooled to room temperature and packaged. A protective tab liner remains in place until the unit is ready for final assembly. The protective tab can be readily removed from the applied Hi-Flow 225U pad at a maximum temperature of 28°C.
2. Automated equipment with 30-psi pressure. A pick-and-place automated dispensing unit can be used to apply the Hi-Flow 225U pad to a room-temperature heat sink. The placement head should have a silicone rubber pad, and should apply approximately 30-psi pressure to the pad on transfer to the 25° – 35°C heat sink. Once applied, the protective tab can be readily removed from the Hi-Flow 225U pad at a maximum temperature of 28°C.

TYPICAL PROPERTIES OF HI-FLOW 225U

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Black	Black	Visual
Reinforcement Carrier	None	None	—
Thickness (inch) / (mm)	0.0015	0.036	ASTM D374
Continuous Use Temp (°F) / (°C)	302	150	—
Phase Change Temp (°F) / (°C)	131	55	ASTM D3418
ELECTRICAL			
Flame Rating	V-O	V-O	U.L. 94
THERMAL			
Thermal Conductivity (W/m-K) (1)	1.0	1.0	ASTM D5470

THERMAL PERFORMANCE vs PRESSURE					
Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance (°C/W)	0.53	0.47	0.39	0.34	0.32
Thermal Impedance (°C-in²/W) (2)	0.08	0.07	0.06	0.05	0.04

1) This is the measured thermal conductivity of the Hi-Flow coating. It represents one conducting layer in a three-layer laminate. The Hi-Flow coatings are phase change compounds. These layers will respond to heat and pressure induced stresses. The overall conductivity of the material in post-phase change, thin film products is highly dependent upon the heat and pressure applied. This characteristic is not accounted for in ASTM D5470. Please contact Bergquist Product Management if additional specifications are required.
2) The ASTM D5470 test fixture was used and the test sample was conditioned at 70°C prior to test. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

Typical Applications Include:

- Computer and peripherals
- High performance computer processors
- Graphic cards
- Power modules

Configurations Available:

- Roll form with tabs, kiss-cut parts – no holes

Hi-Flow 225U is limited to a square or rectangular part design. Dimensional tolerance is +/- 0.020 inch (0.5mm).

Building a Part Number

HF225U – 0.0015 – 00 – 11/500 – NA

Section A: HF225U = Hi-Flow 225U Phase Change Material

Section B: Standard thicknesses available: 0.0015"

Section C: 00 = No adhesive

Section D: ____ = Standard Hi-Flow 225U configuration, 11/500 = 11" x 500' rolls, or 00 = custom configuration

Section E: NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

Standard Options

example

Note: To build a part number, visit our website at www.bergquistcompany.com.

Hi- Flow®: U.S. Patent 6,197,859 and others

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